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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: JAN 30 1991

SUBJECT: Request for Removal Action at Nelson Galvanizing Site, Long Island City, Queens County, New York - ACTION MEMORANDUM

FROM: Paul L. Kahn, On-Scene Coordinator
Response and Prevention Branch

TO: Constantine Sidamon-Eristoff
Regional Administrator

THRU: Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division

Site ID No.: 6Z

I. PURPOSE

This request is being made for the approval of funds to conduct a time critical removal action at the subject site, located at 11-02 Broadway, Long Island City, New York. This request is based upon discussions with the New York State Department of Environmental Conservation (NYSDEC), the New york City Department of Environmental Protection (NYCDEP) and the U. S. Environmental Protection Agency (EPA) Region II, in which the NYSDEC agreed that EPA will conduct a removal of hazardous substances, pollutants and contaminants at Nelson Galvanizing Inc. (NGI). This site is not on the National Priorities List (NPL). To the best of the On-Scene Coordinator's (OSC) knowledge there are no nationally significant or precedent-setting issues associated with this removal.

II. SITE CONDITIONS AND BACKGROUND

A. The NGI site consists of one two story building located in an area of mixed land use: commercial, residential and light industrial. The building is constructed of steel beams, covered with corrugated sheet metal, and is about 60 feet high. A commercial car leasing business is adjacent to NGI; both businesses share a common interior wall. There has been an industrial business on the site since about 1849; the previous business was a steel fabricating shop. The current operator, NGI, has been operating the galvanizing business since approximately 1967, and is currently still operating but at a significantly lower level of production.

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In October 1990, the New York City Department of Environmental Protection (NYCDEP) requested that EPA Region II accompany its Haz-Mat inspectors on an inspection of the premises of NGI. Two joint EPA-NYCDEP inspections, November 19, 1990 and November 29, 1990, and one EPA inspection on December 13, 1990, revealed that NGI is storing in excess of one hundred drums of spent (used) acids and caustic inside the premises. These drums, many of which are open-top, are stacked four or five rows high without pallets between the rows. The EPA inspection on December 13, 1990 revealed that open drums of acid with a pH values of 0, and less than 2 are being stored on site. Standing liquids on the floor were also tested and were shown to have a pH of 2. In addition to the drummed acids and caustic, there are five large dipping tanks on-site, three tanks each holding approximately 4,000 gals. of 5% sulfuric acid, one tank of sodium hydroxide with approximately 2,500 gallons, and one tank of zinc ammonium chloride holding approximately 1,500 gallons. In addition, it was observed that the business operates on a dirt floor; only the entrance way and approximately 70 feet into the premises is covered with concrete. Consequently, it is believed that over the previous 23 years of operation the soil has become stained and saturated from numerous chemical spills and leaks. An officer of the business, Mr. John Sweeney, stated that he used to neutralize his waste acids on-site and discharge the material directly into the city sewer system. In 1988, the NYCDEP ordered this practice stopped and required off-site disposal. NGI has overtly ceased the formal practice of on-site neutralization, but is believed to be disposing waste chemicals via dumping into an excavated dirt trench inside the premises, allowing the chemicals to drain-off into the outside soil. The local utility, Consolidated Edison, has an electrical conduit running under the street adjacent to NGI. Periodically, Con-Ed hires a clean-up contractor to pump accumulated acidic waste water (pH 2 - 4) from its conduit, sometimes as much as 6,000 gallons at a time. Con-Ed has con- tended that the waste water emanates from NGI, and indeed had made the initial complaint to the NYCDEP that resulted in the ban on discharging the neutralized NGI wastes. The fact that there are no other businesses in the immediate area of NGI that use acids or caustic only serves to support Con Ed's contention.

A preliminary assessment was conducted by the OSC during each inspection. In addition to the drums of waste acids and caustic, the OSC observed approximately 30 drums of contaminated soils that we have been informed had been excavated by NGI from an area just outside of the premises. This had been done in response to an NYCDEP clean-up order issued in 1988. There are tons of scrap metal lying about, and leaking tanks of acid and caustic. There

is a small package boiler being used by NGI that was in extremely poor physical condition, to the point that the OSC believed that a boiler explosion was imminent [NOTE: subsequent to the November 19, 1990 preliminary assessment the NYCDEP shut down the boiler pending emergency repair and overhaul; repairs were completed on November 29, 1990 and the boiler placed back into service].

A. Site Description

1. Removal Site Evaluation

The galvanizing process at this site involves the precleaning of base metal in either sulfuric acid or sodium hydroxide to remove dirt, rust and other surface contamination. The pre-cleaned metal is dipped into zinc ammonium chloride, which acts as a surface conditioner. The parts are then dipped into a tank of molten zinc (temperature approx. 800• F). After immersion in the molten zinc for about one minute the parts are removed and allowed to cool, completing the process. NGI is a job-shop business, i.e., it does not have a dedicated production line, but instead processes parts made by others on a piece-work basis. Preliminary evaluations at the site revealed that perhaps as much as 10,000 to 15,000 gallons of bulked acids and caustic are being stored in leaking and corroded containers, stacked in a haphazard and precarious fashion.

2. Physical Location

NGI is located in Long Island City, Queens, in an area of mixed land use. There are single family houses in the immediate area, intermixed with commercial businesses as well as light manufacturing. Several thousand residents and individuals live and work within 1/2 mile of NGI. There is public housing for perhaps 5,000 to 8,000 people within 1/2 mile of the facility. The site is within 1/2 mile of the Northern tip of Roosevelt Island, home to perhaps 12,000 people. The site is located within 3 blocks of the East River, which although not a source of drinking water, is a major ship, barge and recreational waterway.

3. Site Characteristics

This site is an operating metal galvanizing facility. In the course of its operations, NGI utilizes acids, caustic, a zinc salt, zinc metal, and a fluoride-based zinc flux. This will be the first federal removal action ever conducted at this site.

4. Release or Threatened Release into the Environment

Based on the three EPA inspections of the site, the hazardous substances present are sulfuric acid, sodium hydroxide, zinc ammonium chloride, and zinc metal. There are perhaps 150 drums of spent acid and caustic that are piled on each other at precarious angles. Many drums are open-top and liquids were observed to be spilling or leaking from these drums. Because there is a dirt floor inside the premises, many drums are partially buried and wet stains were observed in the soil surrounding these drums. There are standing liquids that have been shown to have a pH of 2. Two drums of waste acid were tested and shown to have a pH of 0, and between 1 and 2. The OSC observed that some of the waste acid drums on the bottom of piles four and five levels high are being deformed by the successive weight of the drums on top. Some of these drums appear to be deformed so that their seams and edges may be stressed to the point of bursting.

The following hazardous substances have been tentatively identified at the site:

Substance	Statutory Source of Designation as a Hazardous Substance
Sulfuric acid	CWA Section 311(b)(4)
Hydrofluoric acid	CWA Section 311(b)(4) RCRA Section 3001
Sodium hydroxide	CWA Section 311(b)(4)
Zinc ammonium chloride	CWA Section 311(b)(4)
Zinc metal	CWA Section 307(a)

The potential health effects from the compounds are identified in the following chart:

	Toxic by Inhalation, Ingestion or Dermal Contact	Central Nervous System Effects	**Eye, Skin, Respiratory Effects or Mucous Membrane Irritant**
Sodium Hydroxide	X		X
Sulfuric acid			X
Zinc amm. chloride	X	X	X
Zinc			X
Hydrofluoric acid	X		X

5. NPL Status

The site is currently not listed on the National Priorities List.

B. Other Actions to Date

1. Previous Actions

At the direction of the NYCDEP, NGI had excavated some contaminated soil at the site; this dirt is currently being stored inside the NGI premises in metal bins. The NYCDEP had also directed NGI to conduct some groundwater sampling in 1988. Analysis of the soil samples revealed the presence of numerous metals such as lead and silver. The NYCDEP has issued an order to NGI to dispose of its waste materials; NGI has not fully complied with this order.

2. Current Actions

There are no other government or private removal actions currently being performed at this site.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

The NYCDEP has issued an order to NGI with respect to cleaning up the site and/or disposing of waste materials. As of this date, NGI has only performed some excavation of contaminated soil, and performed ground water sampling. NYCDEP filed a complaint in January 1991 to enforce its Order.

2. Potential for Continued State/Local Response

The NYSDEC and the NYCDEP will act only in a support role throughout the duration of this removal. Subsequent to the removal action, NYCDEP has expressed its intent to assist in performing necessary actions to address subsurface contaminants.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health and Welfare

Hazardous substances, pollutants or contaminants presently stored in drums, open tanks and bins represent a threat to the public health and welfare as defined by §300.415(b) of the National Contingency Plan (NCP), in that there is an actual ongoing release and/or there is a high potential for such to occur. The substances, which include hydrofluoric and sulfuric acid, sodium hydroxide, and zinc, all represent a threat to the health and welfare of the community. These materials are considered to be highly corrosive in characteristic, by the Resource Conservation and Recovery Act (RCRA).

It is estimated that between 10,000 and 15,000 gallons of corrosive acids and caustic are being stored on-site in open-top drums and in large open-top tanks. In addition, there are tons of contaminated soils and debris being stored on the premises. There are standing puddles of acidic liquids throughout the facility which are believed to be leaking out of the facility into the environment. The site is located at the western edge of a densely populated residential community, and is located amongst numerous other commercial industries that employ many hundreds of workers. In the event of a fire, it is anticipated that firefighters would not be able to avoid contamination from acidic runoff and toxic fumes during firefighting efforts. All runoff produced by firefighting efforts would go directly into the storm sewer and thence directly to the East River. Drums of waste chemicals and piles of debris are stacked in front of access doors, which would severely hamper firefighting efforts in the event of a fire occurring on the premises. There is also a potential for direct contact exposure through acts of vandalism or from trespassers. Although the business is operated 24 hours a day, there is direct access to the hazardous chemicals via a number of doorways and holes in the sides of the building; interior lighting conditions are extremely poor. There are numerous holes and openings in the roof that allow rainwater to enter the premises, washing the spilled acids and caustic onto the dirt floor.

B. Threats to the Environment

There is a threat of release into the environment and therefore, this site does meet the criteria for such as described in §300.415(b)(2) of the NCP. There is obvious evidence of leakage of hazardous materials onto the dirt floor of the site. When standing puddles of liquids were tested with pH paper during EPA's preliminary assessments, the test paper indicated pH levels of 0, and less than 2, thereby meeting the corrosive characteristic as defined by RCRA. The OSC believes that much of this spilled acidic material is seeping from the facility into the environment. The water table in the area is approximately 8-10 feet below the surface of the ground.

C. Evidence of Extent of Release

Evidence of past spills and ongoing releases from deteriorated drums and dip tanks is evidenced by the stains, puddles, and corrosion throughout the facility. In 1988, the NYCDEP was obliged to undertake extensive repairs to the sidewalk and storm drains adjacent to the site, believed to be the result of acidic releases from the site undermining these structures.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementation of the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Removal of hazardous substances, pollutants, and contaminants and off-site RCRA disposal is the only feasible solution for mitigating threats posed by the situation. Site stabilization without disposal would provide only a temporary solution to the threats posed by the site.

A. Proposed Actions

1. Proposed Action Description

Because of the proximity of hazardous substances to the business operations ongoing at the facility, the removal action will necessitate excluding the operator and requiring the cessation of business operations for a period of several months. Consensual access will be sought first. After access has been obtained

EPA would then activate its Emergency Response Cleanup Services contractor to initiate security patrols and to secure the building with door enclosures and proper locks. Due to the fact that there are tons of scrap metal and debris piled inside the building, it will be necessary to first move much of this material to determine whether there are drums containing hazardous substances lying underneath. Concurrent with this activity, a detailed inventory and waste profile of all materials and containers that are now visible, will be conducted, including any additional drums that may be uncovered as the debris is removed. Based on knowledge of the galvanizing process the hazardous waste streams are believed to be acids, caustics, elemental zinc, and a zinc salt (zinc ammonium chloride), an initial evaluation would also be made as to which chemicals might be recycled. Because the vast majority, if not all, of the materials are spent acids or caustic, it is unlikely that any of hazardous substances could be returned to their manufacturers. As the waste streams become fully documented, the acids and caustic would be staged, bulked, and shipped for disposal. It is possible that some of the acids could be neutralized on-site, and the resulting waste shipped to a wastewater treatment facility.

2. Contribution to Remedial Performance

The proposed action will, to the extent practicable, contribute to the efficient performance of any long-term remedial action, including any subsurface cleanup actions undertaken.

3. Description of Alternative Technologies

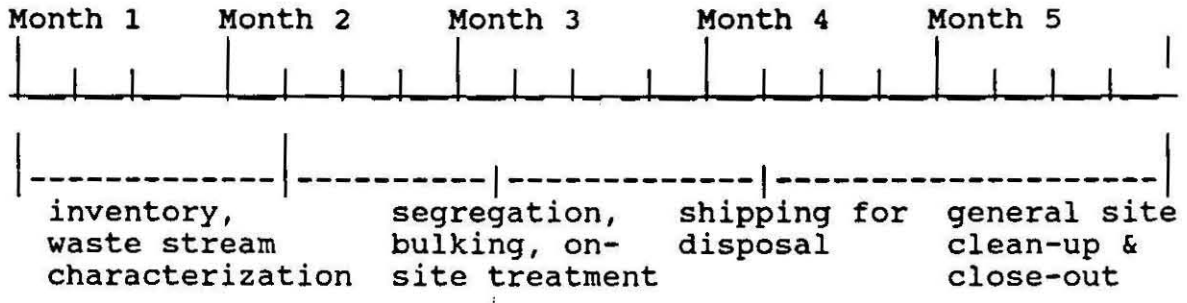
Recycling and both on- and off-site treatment are the primary disposal options. Recycling of liquid wastes is the least expensive option. Because most of the liquid wastes have no market value, or are so cross-contaminated that they have no recycle value, other disposal options would be pursued, such as off-site incineration or neutralization.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

ARARs within the scope of this project, including RCRA and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) regulations that pertain to the disposal of hazardous wastes, will be met to the extent practicable.

5. Project Schedule

Based on the documented amounts of material on the site, it is estimated that the removal action will require 5 months to complete. The timeline for the removal action is anticipated to be as follows:



B. **ESTIMATED COSTS** (rounded to nearest thousand)

1. **Extramural Costs:**	Proposed Ceiling
Regional allowance costs (Total cleanup contractor costs include labor, equipment, materials laboratory disposal analysis, transportation and disposal) includes 20% contingency.	$775,000
Other extramural costs not funded from the regional allowance:	
Total TAT, including multiplier costs	$ 70,000
Subtotal, Extramural costs	$845,000
Extramural costs contingency (20% of subtotal)	$169,000
TOTAL EXTRAMURAL COSTS	$1,014,000
2. **Intramural Costs:**	
Intramural direct costs	$30,000
Intramural indirect costs	$15,000
TOTAL INTRAMURAL COSTS	$45,000
3. **TOTAL REMOVAL PROJECT CEILING**	$1,059,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will increase public health risks to the adjacent population through prolonged exposure to airborne contaminants in the event of a fire or vandalism.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues associated with this site.

VIII. ENFORCEMENT

Based on discussions with an officer of NGI, and NYCDEP staff, it is believed that neither facility owner or operators have sufficient financial resources to undertake this removal action. In addition they have demonstrated lack of cooperation with prior regulatory requirements. Although a PRP search is underway in an attempt to locate other sources of potential funding, due to the nature and amount of hazardous wastes at this site, a fund-lead time-critical removal action is necessary. At the present time, other EPA media offices, including RCRA, Title III, Section 313, and Air and Waste Management are investigating this site for possible violations of a number of EPA statutes.

Removal activities such as bulking and transferring hazardous substances, cannot be performed while NGI employees are present. Conversely, EPA and contractor personnel cannot perform their duties while NGI is operating overhead cranes and moving heavy sections of metal around, operating the galvanizing tanks, etc. Thus, an activity of this nature cannot be accomplished safely while NGI is still in operation. It is anticipated that EPA might not be granted consensual access to the site to conduct a removal action. EPA may seek access to the site through the federal courts.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Nelson Galvanizing Inc. site, in Long Island City, New York. It was developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record and visual inspections of the site. Conditions at the Nelson Galvanizing Inc. site meet the criteria for a removal action pursuant to 40 CFR 300.415(b)(2) (NCP). The total project ceiling, if approved, will be $1,059,000. Of this, an estimated $775,000 comes from the Regional Removal Allowance, and is within the Regional Advice of Allowance for FY-91. It is therefore recommended that you approve this CERCLA removal funding request. Please indicate your approval and authorization of funding for the Nelson Galvanizing Inc. site, pursuant to your authority delegated by Assistant Administrator J. Winston Porter, May 25, 1988, Redelegation Memorandum, Delegation Number R-14-1-A.

Approval: _____ Date 1/30/91
Constantine Sidamon-Eristoff
Regional Administrator

Disapproval: _____ Date _____
Constantine Sidamon-Eristoff
Regional Administrator

cc: (after approval is obtained)
R. Caspe, 2ERRD
R. Salkie, 2ERR-ADREPP
B. Sprague, 2ERR-RPB
G. Zachos, 2ERR-RAB
G. Pavlou, 2ERR-DDNY/CP
V. Pitruzzello, 2ERR-PS
W. Mugdan, 2ORC
E. Schaaf, 2ORC
J. Marshall, 2OEP
R. Gherardi, 2OPM-FIN
S. Anderson, PM-214F (Express Mail)
S. Luftig, OS-210
T. Grier, OS-210
P. McKechnie, 2IG
T. Mignone, 2TATL
J. Rosianski, 2OEP
C. Moyik, 2ERR-PS